

**Listing of the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A display device that reduces energy consumption during row transitions, the display device comprising:

a plurality of pixels arranged in an array having  $n$  rows and  $m$  columns, each of said pixels comprising:

a switching element having a gate;

a plurality of control lines, each of the control lines connected to the gates of a corresponding row of said pixels;

a plurality of data lines, each of the data lines connected to the switching elements of a corresponding column of said pixels;

a row driver circuit that scans the  $n$  rows by a-draining charge from one of said control lines down to a given reference voltage, storing the drained charge as a stored charge, and charging another of said control lines to a given scan voltage using the stored charge; and

a column driver circuit that controls the  $m$  columns by applying a column voltage to said data lines, said column voltage corresponding to image data of the pixels of a selected row to be displayed,

wherein the row driver circuit is arranged to:

drain said control lines by an intermediate draining of a-an initial charge from a selected one of the control lines down to an intermediate voltage level and storing the drained charge,

followed by a final draining down of a remaining charge from the selected one of the control lines, said final draining including connecting of the selected control line to a common reference voltage, said final draining ending at a time T relative to said intermediate draining, and

wherein said row driver circuit is arranged to:

perform said charging by an intermediate charging, beginning at a time not earlier than T, of said another selected one of the control lines to said intermediate voltage level, said intermediate charging using said stored charge,

followed by a final charging of said another selected one of the control lines to said scan voltage.

2. (Previously Presented) The display device of claim 1, wherein the row driver is arranged to perform the intermediate draining as a staged intermediate draining, comprising:

a first intermediate draining of a first charge from the selected one of the control lines down to a first intermediate voltage level and a storing of the drained charge as a first stored charge,

followed by second intermediate draining of a second charge from the selected one of the control lines down to a second intermediate voltage level, and a storing of the drained charge as a second stored charge, and wherein the row driver is arranged to perform the intermediate charging as a successive intermediate charging, comprising a first intermediate charging of the selected another of the control lines using the first stored charge, followed by a second intermediate charging of the selected another of the control lines using the second stored charge.

3. (Canceled).

4. (Previously Presented) The display device of claim 1, wherein the column voltage ranges up to a maximum column voltage and said maximum column voltage is used as the intermediate voltage level.

5. (Previously Presented) The display device of claim 1, wherein the intermediate voltage level is half of said scan voltage.

6. (Canceled).

7. (Previously Presented) A method of reducing energy consumption during row transitions in a display device with pixels arranged in rows  $n$  and columns  $m$ , each pixel comprising a capacitor coupled to a switching element, said method comprising the following steps:

draining one of said control lines down to a given reference voltage, and storing the drained charge as a stored charge;

charging another of said control lines to a given scan voltage using the stored charge ; wherein the draining comprises;

an intermediate draining of an initial charge from a selected one of the control lines down to an intermediate voltage level ;

storing the drained charge; and

a final draining down to a common reference voltage of a remaining charge from the selected one of the control lines, said final draining ending at a time T relative to said intermediate draining! and wherein the charging comprises:

an intermediate charging to said intermediate voltage level of another selected one of the control lines, said charging using said stored charge and beginning at a time not earlier than T; and

a final charging to said scan voltage of said another selected one of the control lines.

8. (New) The display device of claim 1 further comprising a programmable image repetition rate unit, wherein the programmable image repetition rate unit adjust an image repetition rate of the display device, and provides an input to the row driver circuit to prevent the row driver circuit from performing the intermediate draining and the intermediate charging when the image repetition rate of the display device exceeds a predetermined threshold.

9. (New) The method of claim 7 further comprising:  
measuring an image repetition rate of the display device; and  
preventing the intermediate draining and the intermediate charging when the  
image repetition rate of the display device exceeds a threshold.